

Amendment and Response

Applicant: Ivan J. Baiges

Serial No.: 10/057,619

Filed: January 24, 2002

Docket No.: 10017070-1

Title: INKJET PRINTING SYSTEM EMPLOYING MULTIPLE INKJET PRINTHEADS AND METHOD OF
PERFORMING A PRINTING OPERATION**IN THE CLAIMS**

Please add new claim 44.

Please amend claims 1, 19, and 30 as follows:

1. (Currently Amended) A printing system for depositing marking fluid on print media, the printing system comprising:

a first marking engine for depositing a first marking fluid only on a first portion of a first side of the print media; and

a second marking engine for depositing a second marking fluid only on a second

portion of the first side of the print media different than the first portion,

wherein the first marking engine is excluded from depositing the first marking fluid

on the second portion of the print media and the second marking engine is

excluded from depositing the second marking fluid on the first portion of the

print media,

wherein the first marking engine and the second marking engine are adapted to move back and forth across the print media along a first direction while depositing the respective first and second marking fluid on the respective first and second portion of the print media along the first direction.

2. (Original) The printing system of claim 1 wherein the printing system further includes:

a first mechanism coupled to the first marking engine for moving the first marking engine back and forth across the print media so that the first marking engine can deposit the first marking fluid only on the first portion of the print media; and

a second mechanism coupled to the second marking engine for moving the second marking engine back and forth across the print media so that the second marking engine can deposit the second marking fluid only on the second portion of the print media.

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3. (Original) The printing system of claim 2 wherein the first mechanism is spaced from the second mechanism.

4. (Original) The printing system of claim 2 wherein the first and second mechanisms are identical.

5. (Original) The printing system of claim 4 wherein each of the first and second mechanisms includes:
 - a linear guide rod for guiding the respective first and second marking engine;
 - a drive motor; and
 - a drive element coupled between drive motor and the respective first and second marking engine, the drive motor through the drive element linearly moving the respective first and second marking engine along the linear guide rod back and forth across the print media.

6. (Original) The printing system of claim 2 wherein the print media has a width dimension and a length dimension which is greater than the width dimension, and wherein the first and second mechanisms move the first and second marking engines, respectively, back and forth across the width dimension of the print media.

7. (Original) The printing system of claim 2 wherein the print media has a width dimension and a length dimension which is greater than the width dimension, and wherein the first and second mechanisms move the first and second marking engines, respectively, back and forth across the length dimension of the print media.

8. (Original) The printing system of claim 2 wherein the first and second mechanisms operate in unison to move the first and second marking engines back and forth across the print media.

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9. (Original) The printing system of claim 2 wherein the first and second mechanisms operate independently of one another to move the first and second marking engines back and forth across the print media.

10. (Original) The printing system of claim 1 wherein the first and second marking fluids are the same.

11. (Original) The printing system of claim 1 wherein the first and second marking fluids are different.

12. (Original) The printing system of claim 1 wherein the first and second marking engines are identical.

13. (Original) The printing system of claim 12 wherein each of the first and second marking engines includes a printhead for printing a single color marking fluid.

14. (Original) The printing system of claim 12 wherein each of the first and second marking engines includes a printhead for printing multiple colors of marking fluid.

15. (Original) The printing system of claim 12 wherein each of the first and second marking engines includes a first printhead and at least a second printhead.

16. (Original) The printing system of claim 15 wherein the first printhead prints a single color of marking fluid and the at least a second printhead prints at least a single color of marking fluid that is different than the single color of marking fluid of the first printhead.

17. (Original) The printing system of claim 16 wherein the at least a single color of marking fluid is multiple colors of marking fluid.

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18. (Original) The printing system of claim 1 wherein the printing system is a thermal inkjet printing system.

19. (Currently Amended) An inkjet printing system for depositing ink on print media, the printing system comprising:

a first mechanism for moving a first printhead assembly relative to the print media so that the first printhead assembly can deposit ink only on a first unprinted portion of a first side of the print media along a first direction while the first printhead assembly moves back and forth across the print media along the first direction; and

a second mechanism, separate from the first mechanism, for moving a second printhead assembly, separate from the first printhead assembly, relative to the print media so that the second printhead assembly can deposit ink only on a second unprinted portion of the first side of the print media along the first direction while the second printhead assembly moves back and forth across the print media along the first direction.

20. (Cancelled)

21. (Original) The inkjet printing system of claim 19 wherein the first and second mechanisms operate in unison to move the first and second printhead assemblies relative to the print media at the same speed.

22. (Original) The inkjet printing system of claim 19 wherein the first and second mechanisms operate in unison to move the first and second printhead assemblies relative to the print media at the same time.

23. (Original) The inkjet printing system of claim 19 wherein the first and second mechanisms operate in unison to move the first and second printhead assemblies relative to the print media in the same direction.

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24. (Original) The inkjet printing system of claim 19 wherein the first and second mechanisms operate in unison to move the first and second printhead assemblies relative to the print media at the same speed, at the same time and in the same direction.

25. (Original) The inkjet printing system of claim 19 wherein the first and second mechanisms operate independently of one another to move the first and second printhead assemblies relative to the print media at different speeds.

26. (Original) The inkjet printing system of claim 19 wherein the first and second mechanisms operate independently of one another to move the first and second printhead assemblies relative to the print media at different times.

27. (Original) The inkjet printing system of claim 19 wherein the first and second mechanisms operate independently of one another to move the first and second printhead assemblies relative to the print media in different directions.

28. (Original) The inkjet printing system of claim 19 wherein the first and second mechanisms operate independently of one another to move the first and second printhead assemblies relative to the print media at different speeds, at different times and in different directions.

29. (Previously Presented) The inkjet printing system of claim 19 and further including:
a third mechanism, separate from the first and second mechanisms, for moving a third printhead assembly, separate from the first and second printhead assemblies, relative to the print media so that the third printhead assembly can deposit ink only on a third portion of the first side of the print media different than the first and second portions of the print media along the first direction while the third printhead assembly moves back and forth across the print media along the first direction.

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30. (Currently Amended) A method for performing a printing operation for depositing ink on print media, the method comprising:

providing a first movable printhead assembly for depositing ink on the print media;

providing a second movable printhead assembly for depositing ink on the print media;

before depositing any ink on the print media with either of the first and second printhead assemblies, positioning of the print media for printing on a first portion of a first side thereof with the first printhead assembly and for printing on a second portion of the first side thereof different than the first portion with the second printhead assembly; and

after the positioning of the print media, moving the first and second printhead assemblies back and forth across the print media along a first direction while the first printhead assembly deposits ink only on ~~a~~the first portion of a first side of the print media along the first direction and the second printhead assembly deposits ink only on ~~a~~the second portion of the first side of the print media different than the first portion along the first direction.

31. (Previously Presented) The method of claim 30 wherein moving the first and second printhead assemblies includes:

moving the first and second printhead assemblies in unison back and forth across the print media.

32. (Previously Presented) The method of claim 30 wherein moving the first and second printhead assemblies includes:

moving the first and second printhead assemblies independently of one another back and forth across the print media.

33. (Previously Presented) The method of claim 30 wherein the print media has a width dimension and a length dimension which is greater than the width dimension, and wherein moving the first and second printhead assemblies includes:

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moving the first and second printhead assemblies back and forth across the width dimension of the print media.

34. (Previously Presented) The method of claim 30 wherein the print media has a width dimension and a length dimension which is greater than the width dimension, and wherein moving the first and second printhead assemblies includes:

moving the first and second printhead assemblies back and forth across the length dimension of the print media.

35. (Previously Presented) The printing system of claim 1 wherein the second marking engine is spaced from the first marking engine in a second direction substantially perpendicular to the first direction.

36. (Previously Presented) The printing system of claim 35 wherein the first marking engine is adapted to deposit the first marking fluid to a first side of a dividing line between the first portion and the second portion of the print media, and the second marking engine is adapted to deposit the second marking fluid to a second side of the dividing line, and wherein the dividing line is substantially parallel to the first direction.

37. (Previously Presented) The printing system of claim 1 wherein the first marking engine is adapted to move back and forth across the print media along a first axis, and the second marking engine is adapted to move back and forth across the print media along a second axis spaced from the first axis.

38. (Previously Presented) The inkjet printing system of claim 19 wherein the second mechanism is spaced from the first mechanism in a second direction substantially perpendicular to the first direction.

39. (Previously Presented) The inkjet printing system of claim 38 wherein the first mechanism moves the first printhead assembly so that the first printhead assembly can

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deposit ink only to a first side of a dividing line between the first portion and the second portion of the print media, and the second mechanism moves the second printhead assembly so that the second printhead assembly can deposit ink only to a second side of the dividing line, and wherein the dividing line is substantially parallel to the first direction.

40. (Previously Presented) The inkjet printing system of claim 19 wherein the first mechanism moves the first printhead assembly back and forth across the print media along a first axis, and the second mechanism moves the second printhead assembly back and forth across the print media along a second axis spaced from the first axis.

41. (Previously Presented) The method of claim 30 wherein providing the first and second printhead assemblies includes:

spacing the second printhead assembly from the first printhead assembly in a second direction substantially perpendicular to the first direction.

42. (Previously Presented) The method of claim 41 wherein moving the first and second printhead assemblies includes:

moving the first and second printhead assemblies back and forth across the print media while the first printhead assembly deposits ink only to a first side of a dividing line between the first portion and the second portion of the print media and the second printhead assembly deposits ink only to a second side of the dividing line, and

wherein the dividing line is substantially parallel to the first direction.

43. (Previously Presented) The method of claim 30 wherein moving the first and second printhead assemblies includes:

moving the first printhead assembly back and forth across the print media along a first axis, and moving the second printhead assembly back and forth across the print media along a second axis spaced from the first axis.

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44. (New) A system for printing on print media, the system comprising:
- means for moving across the print media along a first direction and depositing a first marking fluid only on a first portion of a first side of the print media along the first direction;
- means for moving across the print media along the first direction and depositing a second marking fluid only on a second portion of the first side of the print media different than the first portion along the first direction; and
- means for moving the print media in a second direction substantially perpendicular to the first direction,
- wherein before either of the means for moving across the print media and depositing the first marking fluid deposits any of the first marking fluid and the means for moving across the print media and depositing the second marking fluid deposits any of the second marking fluid, the means for moving the print media positions the first portion of the print media for printing thereon by the means for moving across the print media and depositing the first marking fluid, and positions the second portion of the print media for printing thereon by the means for moving across the print media and depositing the second marking fluid.